

REMARKS

Favorable reconsideration of this Application as presently amended and in light of the following discussion is respectfully requested.

Claims 1-10, 12-19 and 21-41 remain pending in the present application. Claims 1, 13, 18, 22 and 30 have been amended support for which is found at least at pages 30-31 of the specification. No new matter has been added.

By way of summary, the Official Action presents the following issues: Claims 1-5, 13-15, 18, 19, 22, 30, 33, 40 and 41 are rejected under 35 U.S.C. § 103 as being unpatentable over Hogan (U.S. Patent No. 5,828,754) in view of Furuta et al. (U.S. Patent No. 6,876,607, hereinafter “Furuta”); Claims 7-10, 16 and 17 are rejected under 35 U.S.C. § 103 as being unpatentable over Hogan in view of Furuta and further Ido et al. (U.S. Patent No. 5,852,520, hereinafter “Ido”); Claims 11 and 12 are rejected under 35 U.S.C. § 103 as being unpatentable over Hogan in view of Furuta and Ido and further Kurashina et al. (U.S. Patent No. 6,661,763, hereinafter “Kurashina”); Claims 21 and 25 are rejected under 35 U.S.C. § 103 as being unpatentable over Hogan in view of Furuta and further Kurashina; Claims 23, 24, 27, 31-32, 35, 38 and 39 are rejected under 35 U.S.C. § 103 as being unpatentable over Hogan in view of Furuta and further Takagi et al. (U.S. Patent No. 4,879,704, hereinafter “Takagi”); Claim 26 is rejected under 35 U.S.C. § 103 as being unpatentable over Hogan in view of Furuta and Kurashina and further Yeo (U.S. Patent No. 6,621,781); Claims 6, 28, 29 and 34 are rejected under 35 U.S.C. § 103 as being unpatentable over Hogan in view of Furuta and Yeo; and Claims 36 and 37 are rejected under 35 U.S.C. § 103 as being unpatentable over Hogan in view of Furuta and Takagi and further Yeo.

REJECTION UNDER 35 U.S.C. § 103

The outstanding Official Action has rejected Claims 1-5, 13-15, 18, 19, 22, 30, 33, 40 and 41 under 35 U.S.C. § 103 as being unpatentable over Hogan in view of Furuta. The Official Action contends that Hogan describes all the Applicant's claimed features with the exception of providing connection bits to a predetermined region of a disc. However, the Official Action cites Furuta as describing this more detailed aspect of the Applicants' claimed advancement and states that it would have been obvious to one of ordinary skill in the art at the time the advancement was made to combine the cited references for arriving at the Applicants' claims. Applicants respectfully traverse the rejection.

Applicants' amended Claim 1 recites, *inter alia*, a recording method including:

... selecting predetermined connection bits that are placed between two sequences of modulated data, each sequence corresponding to the predetermined unit, causing the absolute value of DSV increase in only a predetermined region of a disc, so that the region is not reproduceable the disc has a recording area including a synchronous signal area and a data area, and said predetermined region is the data area; and

determining if the disc is an original disc or a copied disc, the presence of the increased DSV in the region indicating that the disc is original, the absence of the increased DSV indicating that the disc is a copy of the original.

Hogan describes an encoder to inhibit copying of digital data. When a CD is created, EFM modulation (eight to fourteen modulator) converts each set of eight data bits into a code symbol of fourteen channel bits. Three connection bits are added between two sequences of 14 channel bits. Hogan augments the data sequences with contrived sequences large enough to cause a large accumulated DSV (digital sum variance) when encoded by a standard encoder but prevents such an accumulation with a special encoder that chooses non-optimal sequences of the data. When the resulting original CDs are re-encoded with standard

encoders that do not artificially keep the accumulated DSV low, the resulting copies have sequences that cause large accumulated DSV that results in a read error.¹

Conversely, in an exemplary aspect of the Applicants' claimed advancements, as amended, a data recording method is provided. The data recording method includes modulating input data for each of a predetermined unit. Predetermined connection bits are selected for placement between two sequences of modulated data. Each sequence corresponds to the predetermined unit, causing the absolute value of a DSV to increase in only a predetermined region of a disc so that the region is not reproduceable. Modulated data is recorded for each predetermined unit and the selected connection bits to the disc. The disc includes a recording area including a synchronous signal area and a data area, the predetermined region being the data area. A determination is made as to whether the disc is an original or a copy to disc based upon the presence of the increased DSV in the region. If the increased DSV is detected in a region, the disc is determined as an original disc, the absence of the increased DSV indicating that the disc is a copy of the original.

As noted above, Hogan provides a scheme by which a special encoder selects connection bits for encoded data such that DSV is decreased. In this way, upon encoding the same data with a typical encoder, the DSV will increase such that the data is not reproduceable for copied discs. However, the increased DSV in the Hogan reference is not provided to an original disc, but instead, a copied disc. This arrangement is the exact opposite of the Applicants' claimed advancements.

Accordingly, as none of the combined references, either alone or in combination, describe determining that a disc is original by the presence of increased DSV in a region or the absence of the increased DSV in the region as indicating a copy of the original, as recited in Applicants' Claim 1 or any claim dependent therefrom, Applicants respectfully submit that

¹ Hogan at Figure 1 and column 5, lines 1 through 10.

these claims are allowable over the cited combination of references. Likewise, as independent Claims 13, 18, 22 and 30 recite substantially similar limitations to that discussed above, Applicants respectfully submit that these claims and any corresponding dependent claims are likewise allowable. Therefore Applicants respectfully request that the rejection of these claims under 35 U.S.C. §103 be withdrawn.

CONCLUSION

Consequently, in view of the foregoing amendments and remarks, it is respectfully submitted that the present Application, including Claims 1-10, 12-19 and 21-41, is patently distinguished over the prior art, in condition for allowance, and such action is respectfully requested at an early date.

Respectfully submitted,

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